3 Tesla Users Primer
and
Training Sessions

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MRI Technologist and Research Assistant

Objectives

- Review the guidelines for human scanning and supply references for further information

- To scan safely

- To scan efficiently

- To find the scan data

Lesson 3
Data and Image Transfer

Lesson 3

Administrative Issues and Procedures

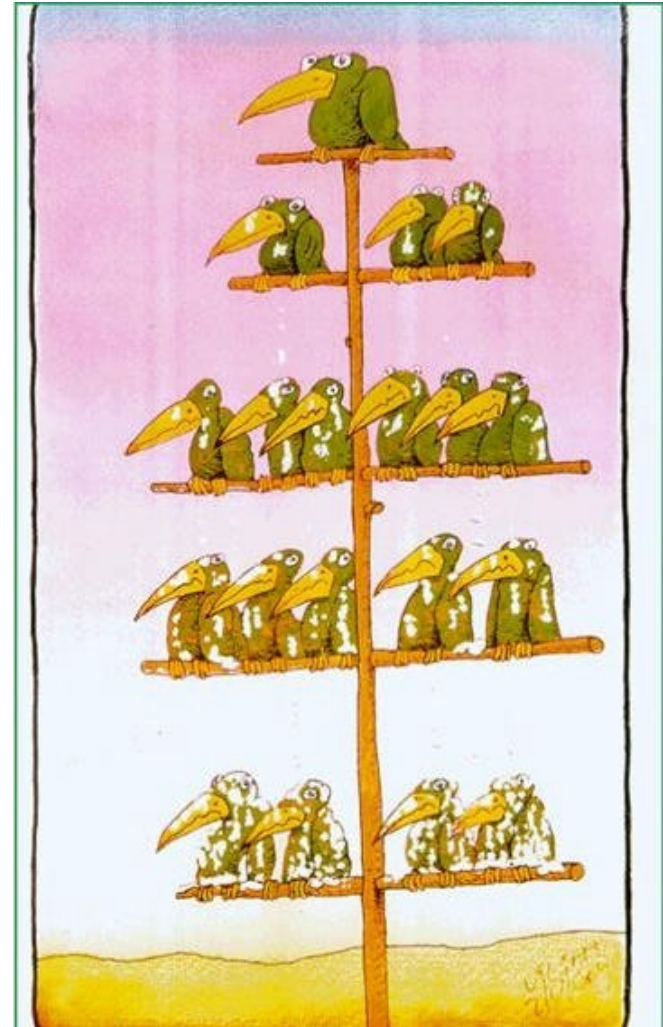Safety Issues

Scan Operations and Procedures

- **Data and Image Transfer**

    - **EPI Data**
        - **Raw Files (P Files)**
        - **GE Real Time Files**
    - **Image Files**
        - **GINX**
        - **Signa Archive**

Scan Room Peripheral Equipment

Scan Room Issues

Miscellaneous

Advanced Training
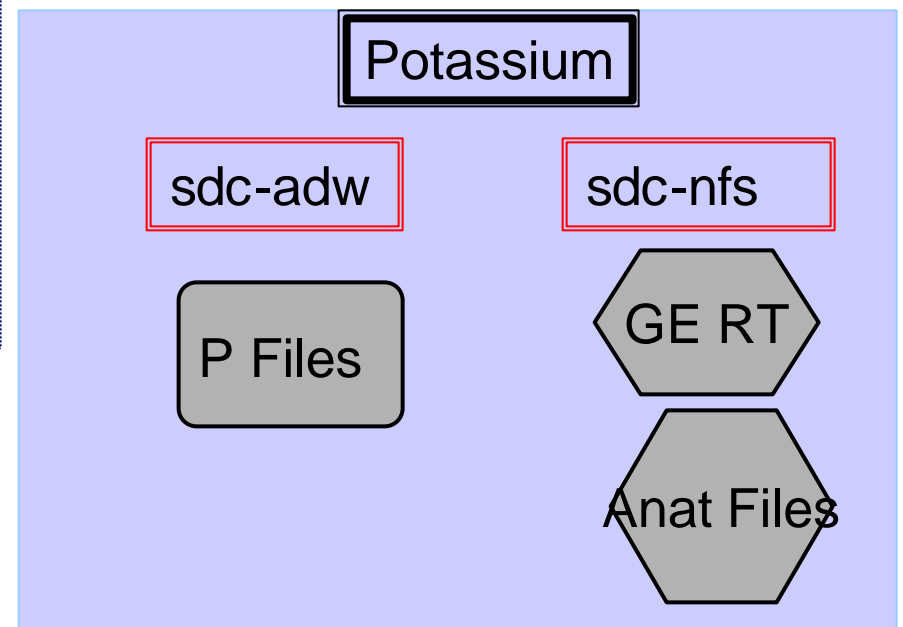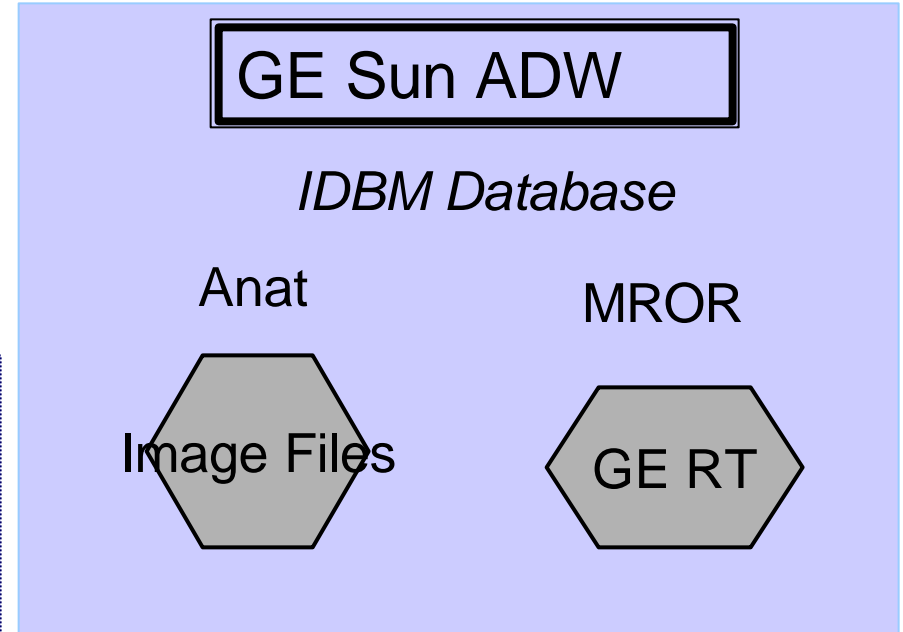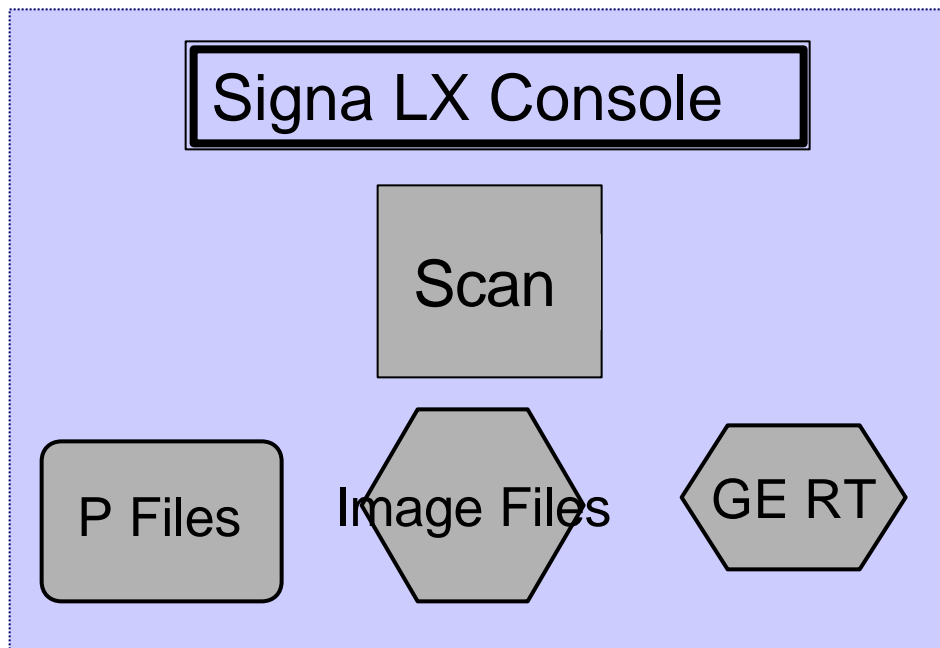
Data and Image Transfers

- Scanner Console
  - Image Files
    - (Browser)
  - P File Numbers
    - (Tools_C Shell)

- GE Sun ADW
  - GE Real Time
  - GINX

- Potassium
  - GE Real Time
  - P Files

The GE Sun ADW on 3T_1

" Lay of the Land"

GE Sun ADW

IDBM Database

Anat

MROR

Image Files

GE RT

Signa LX Console

Scan

P Files

Image Files

GE RT

Potassium

sdc-adw

sdc-nfs

P Files

GE RT

Anat Files

P Files or GE Real Time Data

- **GINX**
  - xferx
    - Image Data

- **Image Data**
  - Anatomical data
  - Structural data
  - Clinical data

- **NIH EPI**
  - P Files
    - sdc-adw
    - Alias = raw

- **GE RealTime**
  - sdc-nfs
  - Alias = epirt

Signa LX Console
Image Files

Scanner Operations Icon

January 14
7:27

23730 left @ 256²
5921 left @ 512²

Disk 24% full

Image quality may be degraded.
Please see message log. »

Idle

GE

5666/1/3
3/3

Media
attached

Printed Ex:
5652 Se: 4
Im: 91
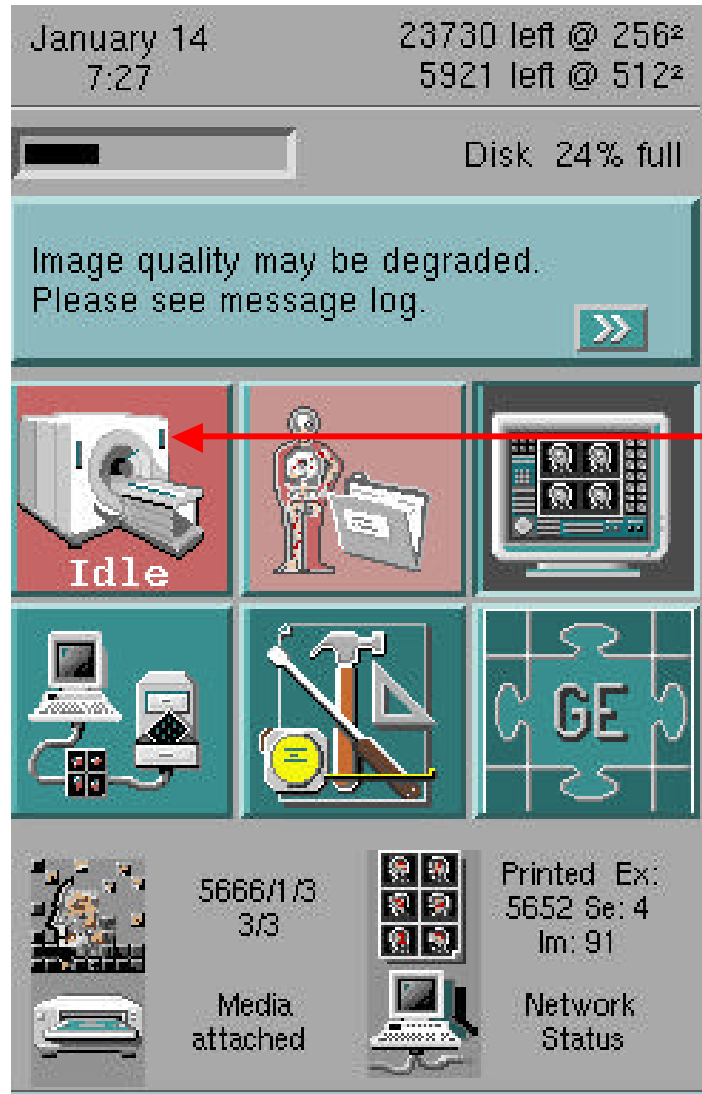
Network
Status

- Date and Time
- Informix space
- Message Board

- **Scanner Operations**
  - Patient Information
  - Protocol RX

- Protocol Manager
- Browser
- Network
- Tools
- Piece of the Puzzle

LX Console > Image Files
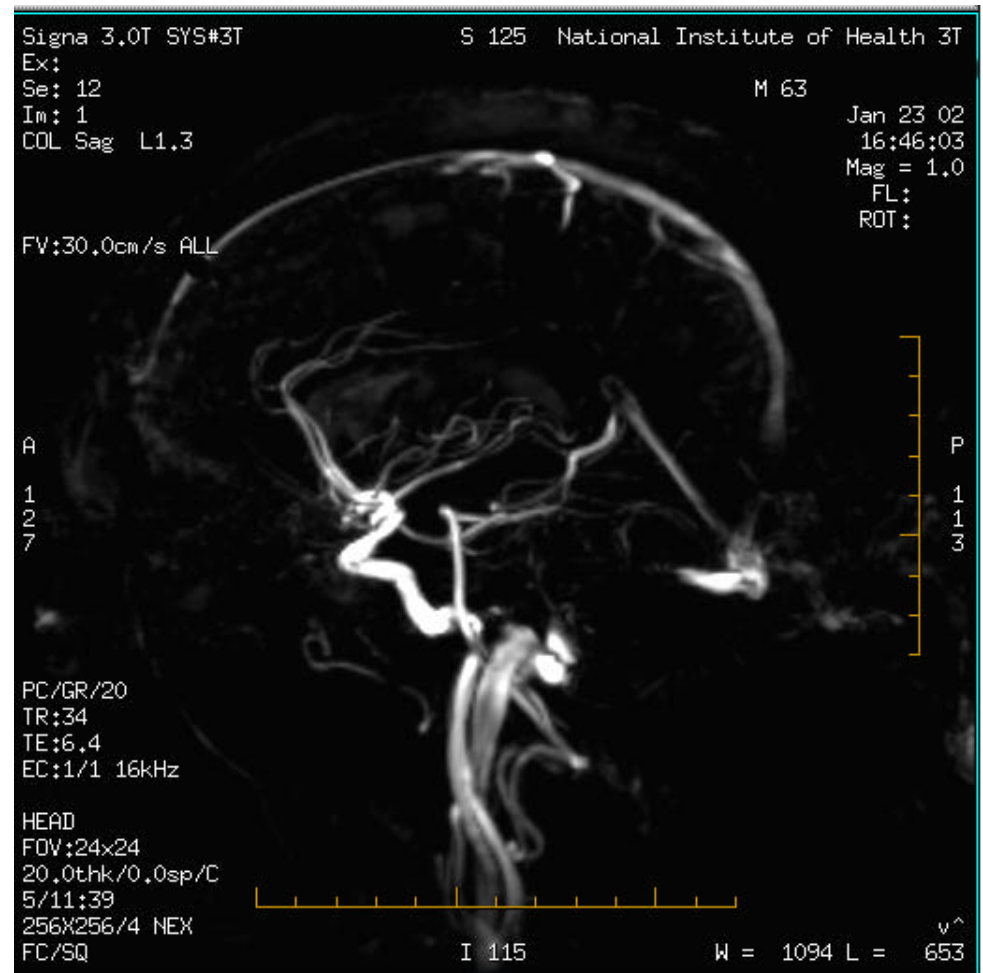
Image scanning =

    non EPI or SPEP

- Anatomical scans

- Structural scans

- Clinical Scans

What Are Image Files?

For example:

- 2d & 3d FSPGR
- 2d & 3d SPGR
- SE
- FSE
- FLAIR
- MRA
- MP-RAGE
- etc

The Browser Icon

January 14
7:27
23730 left @ 256²
5921 left @ 512²

Disk 24% full

Image quality may be degraded.
Please see message log.

Idle

GE

5666/1/3
3/3

Media
attached

Printed Ex:
5652 Se: 4
Im: 91

Network
Status

- Date and Time
- Hard Drive Space
- Message Board
- Scanner Operations
- Protocol Manager

- Browser
  - Archive functions
  - Filming functions
  - Network (local) functions

- Network
- Tools
- Piece of the Puzzle

Save Image Files to Archive Media

Examinations :

Exam		Name		Date		Description	Mod	Fmt	A	
7254/	3T	crotty, laura		Jul 14 02		tools_tellin	MR	Advt	Y	
7253/	3T	jenkins, tereza		Jul 14 02		tools_tellin	MR	Advt	Y	
7252/	3T	jenkins, tereza		Jul 14 02		tools_tellin	MR	Advt	Y	
7251/	3T	crawford, andrew		Jul 14 02		tools_tellin	MR	Advt	Y	
7250/	3T	crawford, andrew		Jul 14 02		tools_tellin	MR	Advt	Y	

Exam no 1000, Jul 21 92, SMPTE

Ser		Type		Imgs	Description		Mod	Manf	
1		SSAVE		1			MR	GEMS	

January 14
7:27

23730 left @ 256^2
5921 left @ 512^2

Disk 24% full

Image quality may be degraded.
Please see message log.

»

02 | FMRI brain | MR | Advt | Y |
02 | FMRI brain | MR | Advt | Y |
02 | FMRI brain | MR | Advt | Y |
02 | fMRI brain | MR | Advt | Y |
02 | Morphometry, | MR | Advt | Y |
02 | fMRI lang | MR | Advt | Y |
02 | fmri languag | MR | Advt | Y |
02 | fMRI lang | MR | Advt | Y |
02 | Moprhometry, | MR | Advt | Y |
92 | SMPTE | MR | Advt | N |

Idle

GE

5666/1/3
3/3

Printed Ex:
5652 Se: 4
Im: 91

Media
attached

Network
Status

← Browser

Image Files

- ALL image files should be saved to the Signa MOD

  - Click on Browser
  - Click on Patient
  - Click Archive
  - Click Save Exam

Archive	Queue	Utilities	Services	Messag

Restore

Save examination

Save series

Save image

Label

Detach

Selected archive device :DICOM_MOD2(Local)

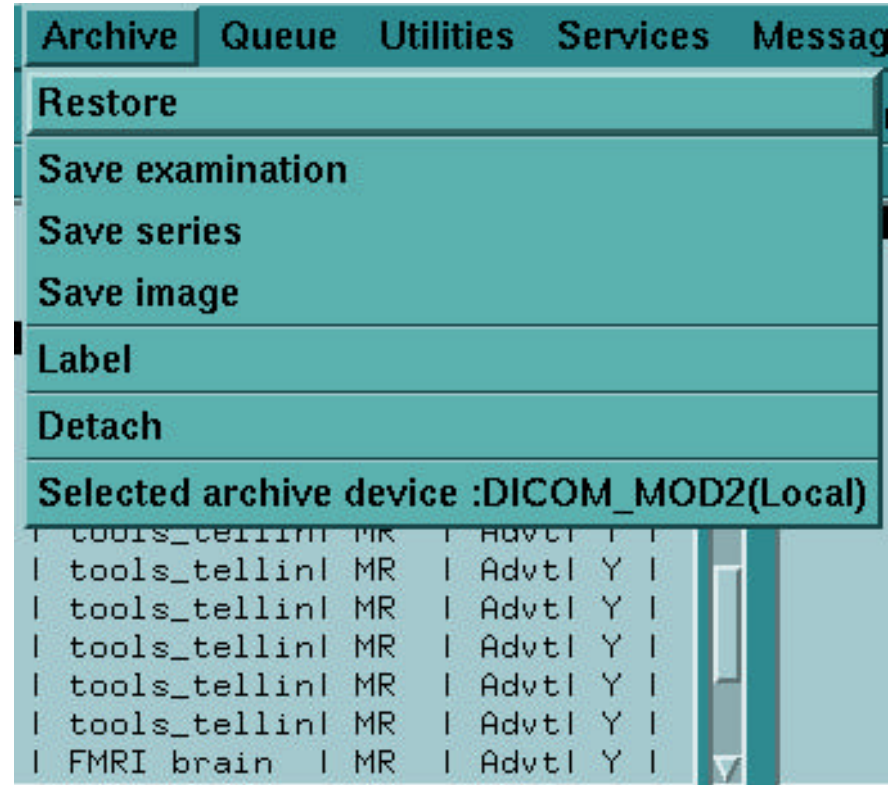| tools_tellinl | MR | Advtl | Y |
tools_tellinl	MR	Advtl	Y
tools_tellinl	MR	Advtl	Y
tools_tellinl	MR	Advtl	Y
tools_tellinl	MR	Advtl	Y
FMRI brain	MR	Advtl	Y

Image files can be restored to Signa and re-Ginxed at later dates IF saved to MOD first. All image data deleted before saved MOD to the is lost forever!

Image Files

- Transfer the image files needed to the Sun ADW via the GINX procedure

- Use rmb
  - IDBM Apps
  - GINX
    - click on the patient
    - Click *Get from Remote*

Signa LX Console
P Files

What are P Files ?

*** *Raw data plus the header information* ***

- Save raw data for recon at a later date
  - Researcher specific
  - Venograms
  - Technical testing

- Protocols that use P Files for Reconstruction
  - NIH EPI
  - SPEP
  - EPI jbEPI

The Tools Icon

January 14
7:27

23730 left @ 256^2
5921 left @ 512^2

Disk 24% full

Image quality may be degraded.
Please see message log. »

Idle

GE

5666/1/3
3/3

Media
attached

Printed Ex:
5652 Se: 4
Im: 91

Network
Status

- Date and Time
- Informix space
- Message Board
- Scanner Operations
- Protocol Manager
- Browser
- Network

- Tools
  - Engineer Options
  - Reset TPS
  - C Shell
  - System Shutdown

- Piece of the Puzzle

Scanner Console_P Files

January 14
7:27

23730 left @ 256²
5921 left @ 512²

Disk 24% full

Image quality may be degraded.
Please see message log. »

Idle

GE

5666/1/3
3/3

Media
attached

Printed Ex:
5652 Se: 4
Im: 91

Network
Status

- Click on the Tools Icon

Scanner Console_P Files

- Click on the Tools Icon

- Click on Cshell

Scanner Console_P Files

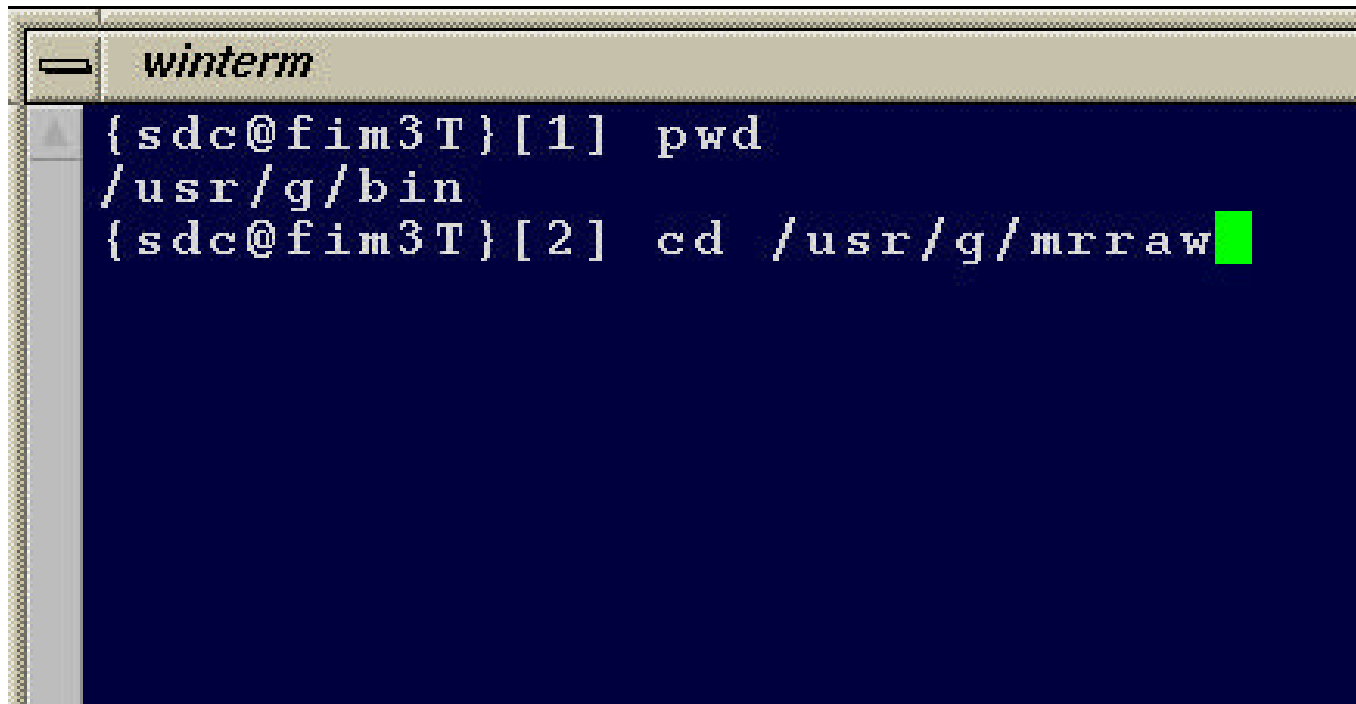- Click on the Tools Icon
- Click on Cshell

At Prompt:

/usr/g/bin is the default)

Type:

cd /usr/g/mrraw

- Hit enter

P Files – Change Directory
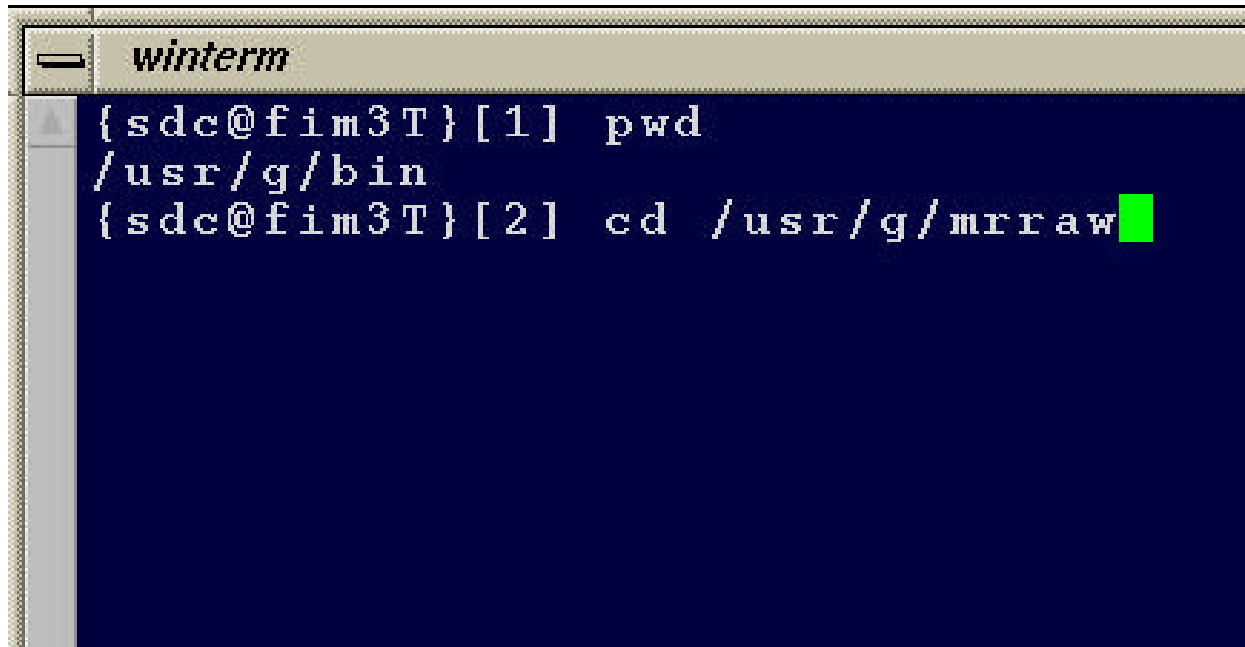
```
winterm
{sdc@fim3T}[1] pwd
/usr/g/bin
{sdc@fim3T}[2] cd /usr/g/mrraw
```

cd into:

/usr/g/mrraw

Scanner Console_P Files

```
winterm
{sdc@fim3T}[1] pwd
/usr/g/bin
{sdc@fim3T}[2] cd /usr/g/mrraw
```
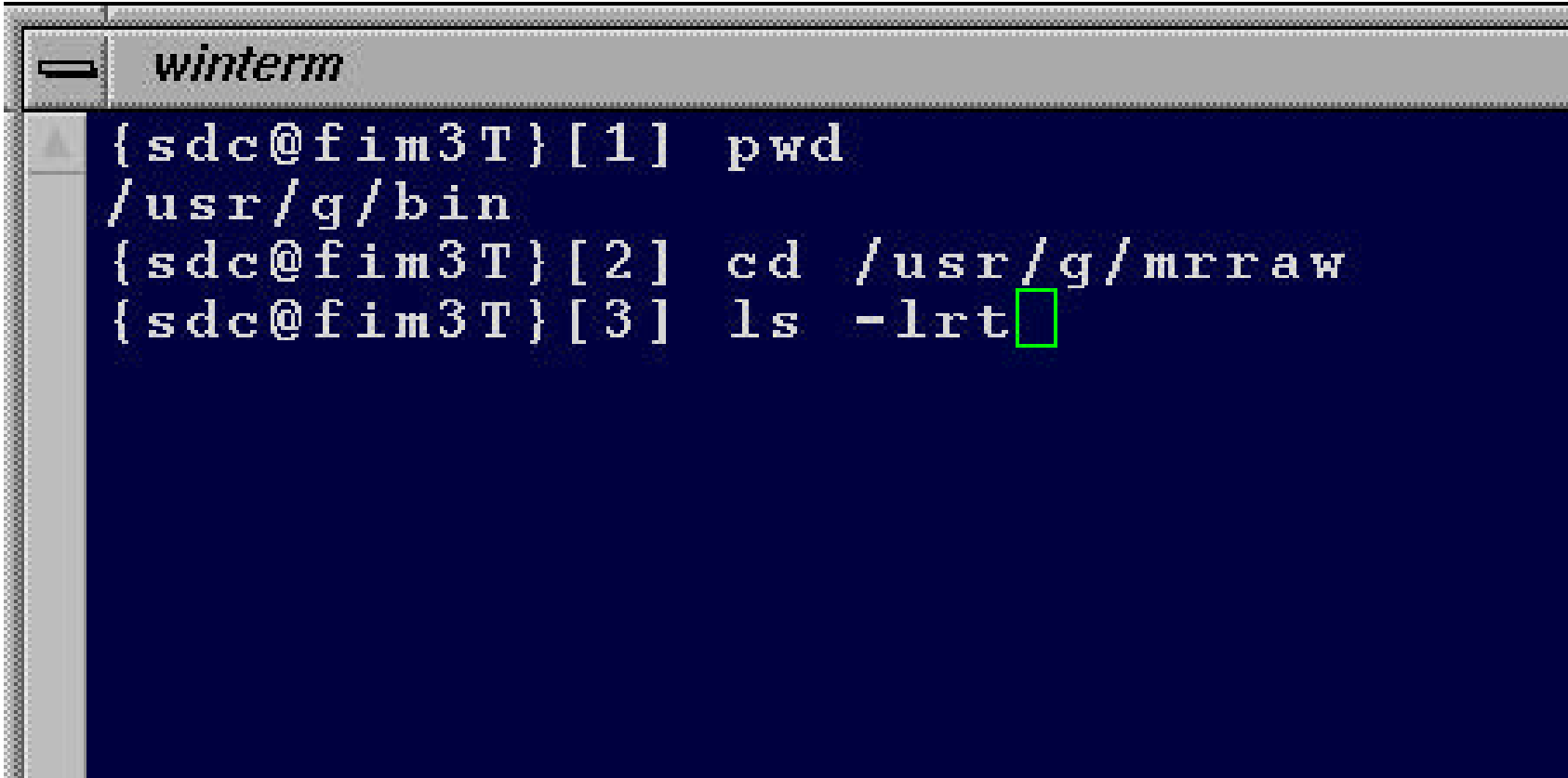
cd /usr/g/mrraw

Hit enter

Type:

    ls –lrt P*

      • Hit enter

P Files Typing > ls –lrt **VS** ls -lrt P*

```
{sdc@fim3T}[1] pwd
/usr/g/bin
{sdc@fim3T}[2] cd /usr/g/mrraw
{sdc@fim3T}[3] ls -lrt
```

- ls -lrt

P Files List_Typing ls -lrt


```
winterm
lrwxrwxr-x    1 sdc        informix           8 Jul  5 06:38 01030 -> P01024.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 06:38 01031 -> P01024.7*
-rwxrwxr-x    1 sdc        informix    71754800 Jul  5 06:51 P02560.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 06:51 02560 -> P02560.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 06:51 02561 -> P02560.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 06:51 02562 -> P02560.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 06:51 02563 -> P02560.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 06:51 02564 -> P02560.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 06:51 02565 -> P02560.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 06:51 02566 -> P02560.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 06:51 02567 -> P02560.7*
-rwxrwxr-x    1 sdc        informix     1398832 Jul  5 07:14 P04096.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:14 04096 -> P04096.7*
-rwxrwxr-x    1 sdc        informix     1398832 Jul  5 07:18 P05120.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:18 05120 -> P05120.7*
-rwxrwxr-x    1 sdc        informix     1398832 Jul  5 07:23 P06144.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:23 06144 -> P06144.7*
-rwxrwxr-x    1 sdc        informix    13625904 Jul  5 07:32 P07168.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:32 07168 -> P07168.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:32 07169 -> P07168.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:32 07170 -> P07168.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:32 07171 -> P07168.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:32 07172 -> P07168.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:32 07173 -> P07168.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:32 07174 -> P07168.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:32 07175 -> P07168.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:32 07176 -> P07168.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:32 07177 -> P07168.7*
-rwxrwxr-x    1 sdc        informix     1398832 Jul  5 07:36 P08704.7*
lrwxrwxr-x    1 sdc        informix           8 Jul  5 07:36 08704 -> P08704.7*
-rwxrwxrwx    1 sdc        informix      320000 Jul  5 08:10 HEADER_POOL*
{sdc@fim3T}[4] 
```

A confusing order results Results when typing:

ls lrt

P Files – Date and Time Stamp


```
winterm
-rwxrwxr-x    1 sdc      informix     1744432 Jul   3 19:29 P38912.7*
-rwxrwxr-x    1 sdc      informix    24366640 Jul   3 19:38 P39424.7*
-rwxrwxr-x    1 sdc      informix    24366640 Jul   3 19:44 P39936.7*
-rwxrwxr-x    1 sdc      informix    24366640 Jul   3 19:56 P40960.7*
-rwxrwxr-x    1 sdc      informix    24366640 Jul   3 20:01 P41472.7*
-rwxrwxr-x    1 sdc      informix     2630704 Jul   3 21:49 P50688.7*
-rwxrwxr-x    1 sdc      informix     2630704 Jul   3 21:51 P51200.7*
-rwxrwxr-x    1 sdc      informix     2630704 Jul   3 21:52 P51712.7*
-rwxrwxr-x    1 sdc      informix     2630704 Jul   3 23:41 P59904.7*
-rwxrwxr-x    1 sdc      informix     2630704 Jul   3 23:42 P60416.7*
-rwxrwxr-x    1 sdc      informix     2630704 Jul   3 23:43 P60928.7*
-rwxrwxr-x    1 sdc      informix     1877040 Jul   4 13:48 P04608.7*
-rwxrwxr-x    1 sdc      informix    84968496 Jul   4 14:00 P05632.7*
-rwxrwxr-x    1 sdc      informix    84968496 Jul   4 14:23 P06656.7*
-rwxrwxr-x    1 sdc      informix    84968496 Jul   4 14:41 P07680.7*
-rwxrwxr-x    1 sdc      informix    84968496 Jul   4 14:52 P08192.7*
-rwxrwxr-x    1 sdc      informix     1877040 Jul   4 15:18 P11776.7*
-rwxrwxr-x    1 sdc      informix    84968496 Jul   4 15:29 P12288.7*
-rwxrwxr-x    1 sdc      informix    84968496 Jul   4 15:40 P12800.7*
-rwxrwxr-x    1 sdc      informix    84968496 Jul   4 15:52 P13312.7*
-rwxrwxr-x    1 sdc      informix    42574896 Jul   4 15:57 P13824.7*
-rwxrwxr-x    1 sdc      informix    84968496 Jul   4 16:09 P14336.7*
-rwxrwxr-x    1 sdc      informix    84968496 Jul   4 16:21 P14848.7*
-rwxrwxr-x    1 sdc      informix    42574896 Jul   4 16:31 P16896.7*
-rwxrwxr-x    1 sdc      informix    71754800 Jul   5 06:38 P01024.7*
-rwxrwxr-x    1 sdc      informix    71754800 Jul   5 06:51 P02560.7*
-rwxrwxr-x    1 sdc      informix     1398832 Jul   5 07:14 P04096.7*
-rwxrwxr-x    1 sdc      informix     1398832 Jul   5 07:18 P05120.7*
-rwxrwxr-x    1 sdc      informix     1398832 Jul   5 07:23 P06144.7*
-rwxrwxr-x    1 sdc      informix    13625904 Jul   5 07:32 P07168.7*
-rwxrwxr-x    1 sdc      informix     1398832 Jul   5 07:36 P08704.7*
{sdc@fim3T}[4]
```

Orderly results when typing:

ls –lrt P*

C Shell_(ls –lrt P*)

C Shell_(ls –lrt P*)

```
winterm
-rwxrwxr-x    1 sdc        informix     1744432 Jul   3 19:29 P38912.7*
-rwxrwxr-x    1 sdc        informix    24366640 Jul   3 19:38 P39424.7*
-rwxrwxr-x    1 sdc        informix    24366640 Jul   3 19:44 P39936.7*
-rwxrwxr-x    1 sdc        informix    24366640 Jul   3 19:56 P40960.7*
-rwxrwxr-x    1 sdc        informix    24366640 Jul   3 20:01 P41472.7*
-rwxrwxr-x    1 sdc        informix     2630704 Jul   3 21:49 P50688.7*
-rwxrwxr-x    1 sdc        informix     2630704 Jul   3 21:51 P51200.7*
-rwxrwxr-x    1 sdc        informix     2630704 Jul   3 21:52 P51712.7*
-rwxrwxr-x    1 sdc        informix     2630704 Jul   3 23:41 P59904.7*
-rwxrwxr-x    1 sdc        informix     2630704 Jul   3 23:42 P60416.7*
-rwxrwxr-x    1 sdc        informix     2630704 Jul   3 23:43 P60928.7*
-rwxrwxr-x    1 sdc        informix     1877040 Jul   4 13:48 P04608.7*
-rwxrwxr-x    1 sdc        informix    84968496 Jul   4 14:00 P05632.7*
-rwxrwxr-x    1 sdc        informix    84968496 Jul   4 14:23 P06656.7*
-rwxrwxr-x    1 sdc        informix    84968496 Jul   4 14:41 P07680.7*
-rwxrwxr-x    1 sdc        informix    84968496 Jul   4 14:52 P08192.7*
-rwxrwxr-x    1 sdc        informix     1877040 Jul   4 15:18 P11776.7*
-rwxrwxr-x    1 sdc        informix    84968496 Jul   4 15:29 P12288.7*
-rwxrwxr-x    1 sdc        informix    84968496 Jul   4 15:40 P12800.7*
-rwxrwxr-x    1 sdc        informix    84968496 Jul   4 15:52 P13312.7*
-rwxrwxr-x    1 sdc        informix    42574896 Jul   4 15:57 P13824.7*
-rwxrwxr-x    1 sdc        informix    84968496 Jul   4 16:09 P14336.7*
-rwxrwxr-x    1 sdc        informix    84968496 Jul   4 16:21 P14848.7*
-rwxrwxr-x    1 sdc        informix    42574896 Jul   4 16:31 P16896.7*
-rwxrwxr-x    1 sdc        informix    71754800 Jul   5 06:38 P01024.7*
-rwxrwxr-x    1 sdc        informix    71754800 Jul   5 06:51 P02560.7*
-rwxrwxr-x    1 sdc        informix     1398832 Jul   5 07:14 P04096.7*
-rwxrwxr-x    1 sdc        informix     1398832 Jul   5 07:18 P05120.7*
-rwxrwxr-x    1 sdc        informix     1398832 Jul   5 07:23 P06144.7*
-rwxrwxr-x    1 sdc        informix    13625904 Jul   5 07:32 P07168.7*
-rwxrwxr-x    1 sdc        informix     1398832 Jul   5 07:36 P08704.7*
{sdc@fim3T}[4]
```

Date Acquired

C Shell_(ls –lrt P*)


```
winterm
-rwxrwxr-x   1 sdc      informix     1744432 Jul   3 19:29 P38912.7*
-rwxrwxr-x   1 sdc      informix    24366640 Jul   3 19:38 P39424.7*
-rwxrwxr-x   1 sdc      informix    24366640 Jul   3 19:44 P39936.7*
-rwxrwxr-x   1 sdc      informix    24366640 Jul   3 19:56 P40960.7*
-rwxrwxr-x   1 sdc      informix    24366640 Jul   3 20:01 P41472.7*
-rwxrwxr-x   1 sdc      informix     2630704 Jul   3 21:49 P50688.7*
-rwxrwxr-x   1 sdc      informix     2630704 Jul   3 21:51 P51200.7*
-rwxrwxr-x   1 sdc      informix     2630704 Jul   3 21:52 P51712.7*
-rwxrwxr-x   1 sdc      informix     2630704 Jul   3 23:41 P59904.7*
-rwxrwxr-x   1 sdc      informix     2630704 Jul   3 23:42 P60416.7*
-rwxrwxr-x   1 sdc      informix     2630704 Jul   3 23:43 P60928.7*
-rwxrwxr-x   1 sdc      informix     1877040 Jul   4 13:48 P04608.7*
-rwxrwxr-x   1 sdc      informix    84968496 Jul   4 14:00 P05632.7*
-rwxrwxr-x   1 sdc      informix    84968496 Jul   4 14:23 P06656.7*
-rwxrwxr-x   1 sdc      informix    84968496 Jul   4 14:41 P07680.7*
-rwxrwxr-x   1 sdc      informix    84968496 Jul   4 14:52 P08192.7*
-rwxrwxr-x   1 sdc      informix     1877040 Jul   4 15:18 P11776.7*
-rwxrwxr-x   1 sdc      informix    84968496 Jul   4 15:29 P12288.7*
-rwxrwxr-x   1 sdc      informix    84968496 Jul   4 15:40 P12800.7*
-rwxrwxr-x   1 sdc      informix    84968496 Jul   4 15:52 P13312.7*
-rwxrwxr-x   1 sdc      informix    42574896 Jul   4 15:57 P13824.7*
-rwxrwxr-x   1 sdc      informix    84968496 Jul   4 16:09 P14336.7*
-rwxrwxr-x   1 sdc      informix    84968496 Jul   4 16:21 P14848.7*
-rwxrwxr-x   1 sdc      informix    42574896 Jul   4 16:31 P16896.7*
-rwxrwxr-x   1 sdc      informix    71754800 Jul   5 06:38 P01024.7*
-rwxrwxr-x   1 sdc      informix    71754800 Jul   5 06:51 P02560.7*
-rwxrwxr-x   1 sdc      informix     1398832 Jul   5 07:14 P04096.7*
-rwxrwxr-x   1 sdc      informix     1398832 Jul   5 07:18 P05120.7*
-rwxrwxr-x   1 sdc      informix     1398832 Jul   5 07:23 P06144.7*
-rwxrwxr-x   1 sdc      informix    13625904 Jul   5 07:32 P07168.7*
-rwxrwxr-x   1 sdc      informix     1398832 Jul   5 07:36 P08704.7*
{sdc@fim3T}[4]
```

Time
Acquired
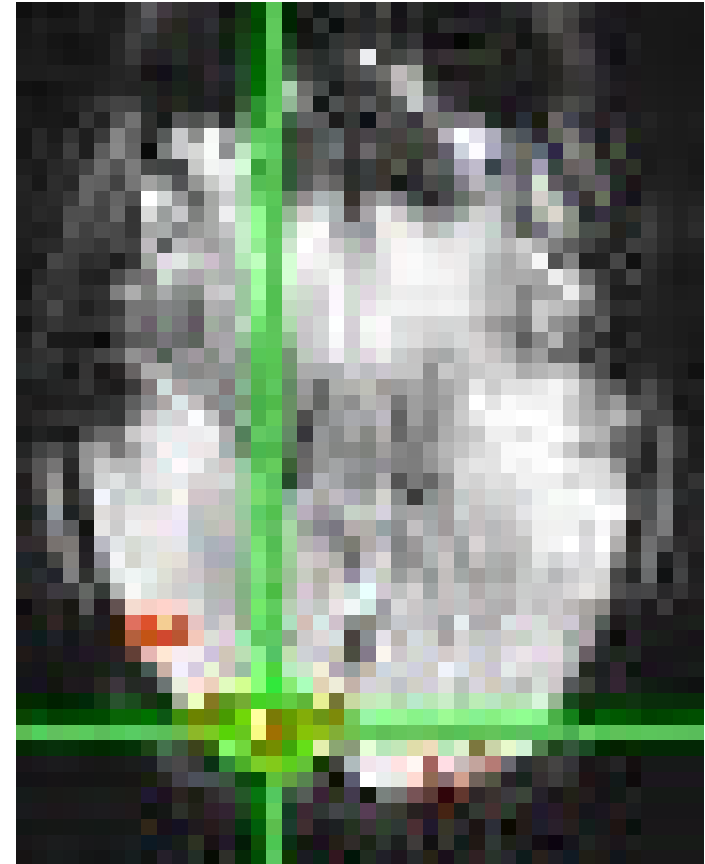
C Shell_(ls –lrt P*)

```
winterm
-rwxrwxr-x      1 sdc        informix      1744432 Jul   3 19:29 P38912.7*
-rwxrwxr-x      1 sdc        informix     24366640 Jul   3 19:38 P39424.7*
-rwxrwxr-x      1 sdc        informix     24366640 Jul   3 19:44 P39936.7*
-rwxrwxr-x      1 sdc        informix     24366640 Jul   3 19:56 P40960.7*
-rwxrwxr-x      1 sdc        informix     24366640 Jul   3 20:01 P41472.7*
-rwxrwxr-x      1 sdc        informix      2630704 Jul   3 21:49 P50688.7*
-rwxrwxr-x      1 sdc        informix      2630704 Jul   3 21:51 P51200.7*
-rwxrwxr-x      1 sdc        informix      2630704 Jul   3 21:52 P51712.7*
-rwxrwxr-x      1 sdc        informix      2630704 Jul   3 23:41 P59904.7*
-rwxrwxr-x      1 sdc        informix      2630704 Jul   3 23:42 P60416.7*
-rwxrwxr-x      1 sdc        informix      2630704 Jul   3 23:43 P60928.7*
-rwxrwxr-x      1 sdc        informix      1877040 Jul   4 13:48 P04608.7*
-rwxrwxr-x      1 sdc        informix     84968496 Jul   4 14:00 P05632.7*
-rwxrwxr-x      1 sdc        informix     84968496 Jul   4 14:23 P06656.7*
-rwxrwxr-x      1 sdc        informix     84968496 Jul   4 14:41 P07680.7*
-rwxrwxr-x      1 sdc        informix     84968496 Jul   4 14:52 P08192.7*
-rwxrwxr-x      1 sdc        informix      1877040 Jul   4 15:18 P11776.7*
-rwxrwxr-x      1 sdc        informix     84968496 Jul   4 15:29 P12288.7*
-rwxrwxr-x      1 sdc        informix     84968496 Jul   4 15:40 P12800.7*
-rwxrwxr-x      1 sdc        informix     84968496 Jul   4 15:52 P13312.7*
-rwxrwxr-x      1 sdc        informix     42574896 Jul   4 15:57 P13824.7*
-rwxrwxr-x      1 sdc        informix     84968496 Jul   4 16:09 P14336.7*
-rwxrwxr-x      1 sdc        informix     84968496 Jul   4 16:21 P14848.7*
-rwxrwxr-x      1 sdc        informix     42574896 Jul   4 16:31 P16896.7*
-rwxrwxr-x      1 sdc        informix     71754800 Jul   5 06:38 P01024.7*
-rwxrwxr-x      1 sdc        informix     71754800 Jul   5 06:51 P02560.7*
-rwxrwxr-x      1 sdc        informix      1398832 Jul   5 07:14 P04096.7*
-rwxrwxr-x      1 sdc        informix      1398832 Jul   5 07:18 P05120.7*
-rwxrwxr-x      1 sdc        informix      1398832 Jul   5 07:23 P06144.7*
-rwxrwxr-x      1 sdc        informix     13625904 Jul   5 07:32 P07168.7*
-rwxrwxr-x      1 sdc        informix      1398832 Jul   5 07:36 P08704.7*
{sdc@fim3T}[4]
```

P File Numerical Name

Using NIH EPI

- ## Log on to Potassium
  - sdc-adw
    - pidof demon2

- ## Open terminal on Sun ADW
  - xhost +

- ## Scan on Signa using:
  - jbEPI
  - SPEP
  - NIH 3

AFNI Pop-Up Window
on the ADW

Scanning with NIH EPI
Recording the File Names and Seeing the Images

On Signa:

- Click on the tools icon
  - Open a Cshell
  - cd to:

    /usr/g/mrraw
    - ls –lrt P*

- It is important to write down and to keep track of the P File Names (Numerical) after each run.

- Remember to logout of Potassium by clicking on fmri done.

NIH EPI_Potassium

With the following sequences:

   NIH EPI

   jbEPi

   SPEP

The script is automatically making the brik files and
   sending them to AFNI

NIH EPI_Potassium

When finished scanning, go to Potassium and click on fmri done button.

This will automatically make the tar file

  Type ls-lrt in the window

  Note the file name (Jul_25_1340)

  Logout of Potassium

Finding the P Files on Potassium

- Reside on sdc-adw

  – Type raw (alias)

  ls –lrt

  cd Jun_30_xxx

  - P file #
  - FILE_LIST

  For example: Jun_30_085

The P Files will remain on Potassium for 5-7 days only.

It is the researcher's responsibility to copy the files to their own computer.

Sun ADW

The Sun ADW

- Connected to the Signa IDBM Database

- Resides to the right of the scan console

- AFNI Pop-up with NIH Epi
- GINX

SUN ADW Screen

fim3t-adw [102]%

Xhost +

Access control disabled, clients can connect from any host

console   /bin/csh   /bin/csh

NIH EPI _ Sun ADW

- **On the GE Sun ADW**

- Open a Terminal window
- Type:
  xhost +

- In this manner, AFNI will automatically pop up on the ADW. Image runs will be listed by the p file name (01024.7).

- When finished scanning, go to Potassium and click on **fmri done** button.
  – Type ls-lrt in the window
  – Note the file name (Jul_25_1340)
  – Logout of Potassium
  – *Transfer the file to personal computer*

Running GE Real Time EPI

- After download of protocol and checking the off-set for fat sat. On the Sun ADW :
- click on:
  - RealTime Control (rmb)
  - Click on Prep scan
- When it fails, click on Manual Prescan (Signa console) and check the prescan parameters
- Write down the values
- Click on Reference Scan (Signa Console)
- Click on Scan (Sun ADW)

SUN ADW Screen

fim3t-adw [102]%

Using the *rmb* click on:

Applications

RealTime Control
Neuro Apps
IDBM Apps
Terminals
Tools
Window Manager
Service Tools

console   /bin/csh   /bin/csh

Tar and Copy Data From ADW

Immediately after scan and before the next patient:

- In a terminal window:
  - Copy (cp) data from SUN through the Network (nfs) to Potassium

- Type: cd $RTime and enter

  ls –lrt and enter

  - cp –rp 36_70_46_1/$arena2/tmp

  (tmp resides on Potassium in sdc-adw)

SUN ADW Screen

fim3t-adw [102]%

Using the *rmb* click on:

Applications
RealTime Control Neuro Apps IDBM Apps ──→ Terminals Tools Window Manager Service Tools

IDBM Apps
GINX Db Maintenance Clean Failed Image

console   /bin/csh   /bin/csh

SUN ADW Screen

fim3t-adw [102]%

Using the *rmb* click on:

Applications
RealTime Control Neuro Apps IDBM Apps Terminals → Tools Window Manager Service Tools

Terminals
Command Tool Xterm ShellTool

Colors
White Purple Yellow

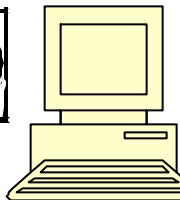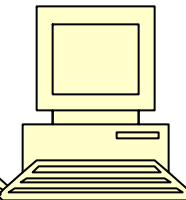console   /bin/csh   /bin/csh

SUN ADW Screen

fim3t-adw [102]%

Using the *rmb* Click on:

Applications

RealTime Control
Neuro Apps
IDBM Apps
Terminals
Tools ──────────►
Window Manager
Service Tools

Tools

Text Editor
Calculator
File Manager
Tape Tool
Perfmeter
Manual Page Viewer

console   /bin/csh   /bin/csh

SUN ADW Screen

fim3t-adw [102]%

Using the *rmb* Click on:

Applications

RealTime Control
Neuro Apps
IDBM Apps
Terminals
Tools
Window Manager →
Service Tools

Window Manager

Redisplay All
Properties
Reload Resource Database
Restart
Lock Screen

console   /bin/csh   /bin/csh

SUN ADW Screen

fim3t-adw [102]%
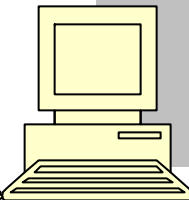
Using the *rmb* click on:

Applications

RealTime Control
Neuro Apps
IDBM Apps
Terminals
Tools
Window Manager
Service Tools →

Service Tools

Install License Key

Logout

console   /bin/csh   /bin/csh

Potassium

Potassium Screen

(sdc-adw)

Sdc-adw@potassium.nimh.nih.gov:/home/sdc-adw-konsole

```
$ pidof demon2
```

Sdc-adw@potassium.nimh.nih.gov:/home/sdc-adw-konsole

NIH EPI_Potassium

- **On Potassium:**

- At RedHat Login:
  - Login: sdc-adw
  - Password: xxxxxx

- In window:
  - Type:
    - pidof demon2 (should be a number)

- When finished scanning, go to Potassium and click on **fmri done** button.
  - Type ls-lrt in the window
  - Note the file name (Jul_25_1340)
  - Logout of Potassium

Tar Data From Backup (Potassium)

- Telnet to Potassium
  - Login:sdc-nfs
  - Password: xxxxxx
    - Type: epirt and enter
    - Type: ls –lrt and enter
    - Cd into the day and data
    - e.g. > cd DATA_Jul_20/MROR/07301
      - Type: tar cvf 07301.tar 07301/ and enter
      - Type: ls –lrt
    - ftp to own computer

Finding Data After a TPS Reset

- When the TPS is reset on the scanner…

- All the P Files from the given date are transferred to another location to avoid over-writing of the data.

- Find on Potassium :
  - raw (alias)
    - ls –lrt
    - cd Nov_15
    - sub-directory tps
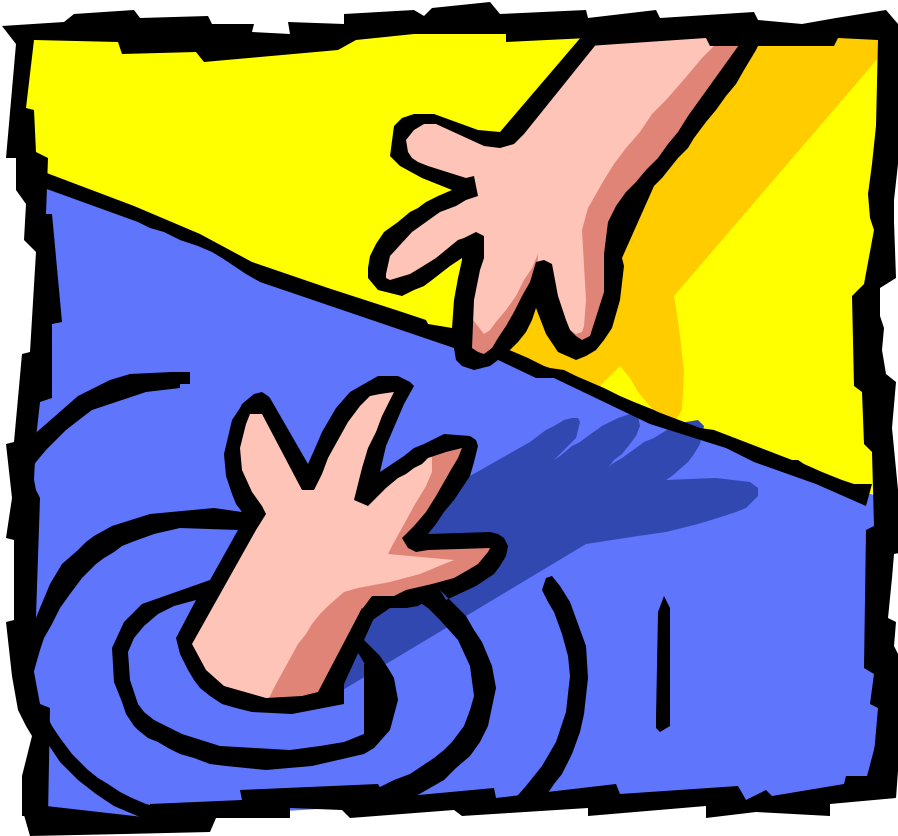   - tps_00_06

Finding Data the Next Day on Potassium

- *All* data transfers from the IDBM Database to Potassium at 2am the next day *

  Do NOT shutdown Signa and computers at the end of the day!
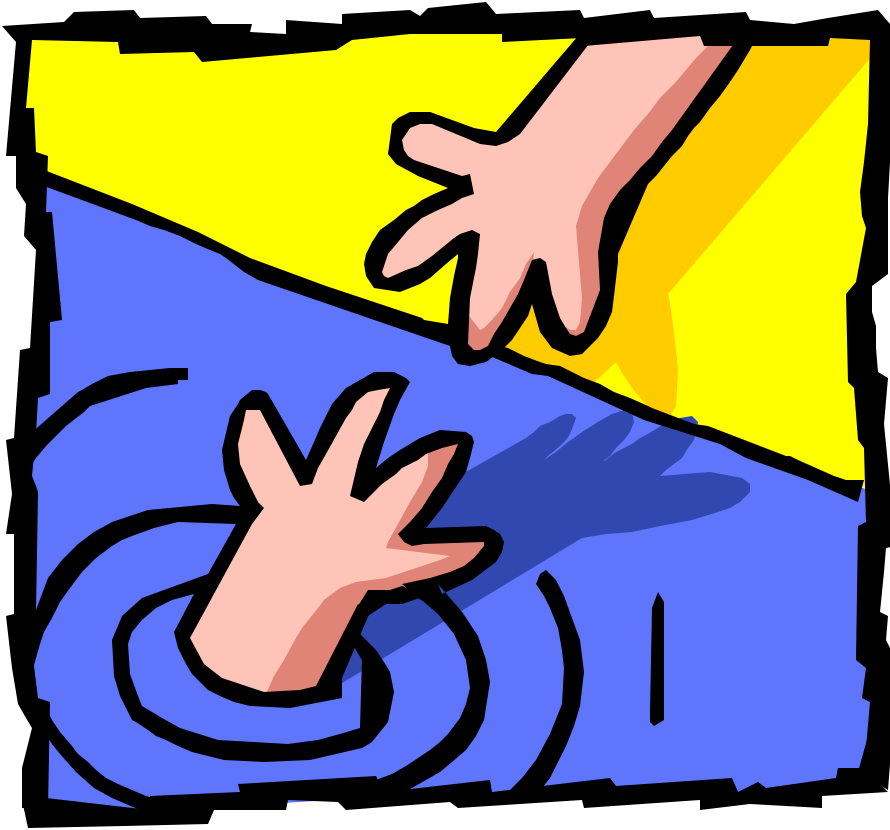
- Telnet to potassium:

  ```
  telnet
  open 128.231.212.156
  login:sdc-nfs
  password:xxxx
  at the $ prompt, type
  epirt
  ls -lrt
  cd DATA_Jun_30
          GINX (anat files) MROR (epiRT)
  ```

Help! Where is My Data 1?

- Pfiles:
  - Potassium
    - sdc-adw

- GE RT
  - Potassium
    - sdc-nfs

- Image Files (GINX)
  - SunAdw (GINX)
- Potassium
  - sdc-nfs

Help! Where is My Data 2 ?

- Image Files are saved to the MOD
  - These can be restored to Signa if deleted

- Transfer to the Sun ADW via the xferx (GINX) protocol:

  - Tar and send to Potassium (nfs)

  RT Folder (MROR)
  - {RT/2002.07.25/Ex6061rt.tar}
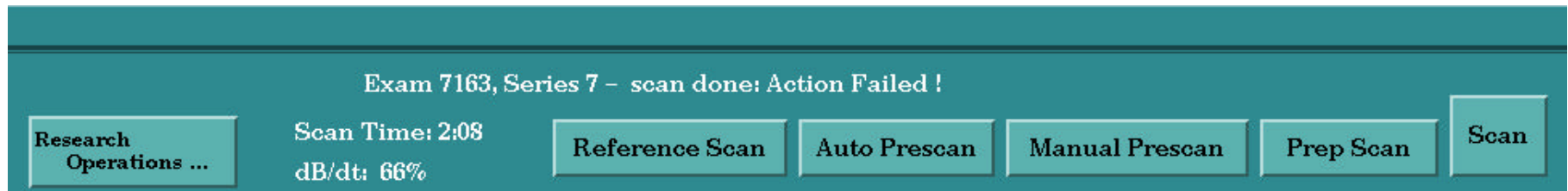
- Anat Folder (GINX)
  - {Anat/2002.07.25/Ex6061anat.tar}

Screen Lock Up on the Sun ADW

- Hold down the Stop on the left side of keyboard and hit the a key at the same time.

- Then type: boot and hit enter

- Wait for the login prompt
  - Login: sdc
  - Password: xxxxxx
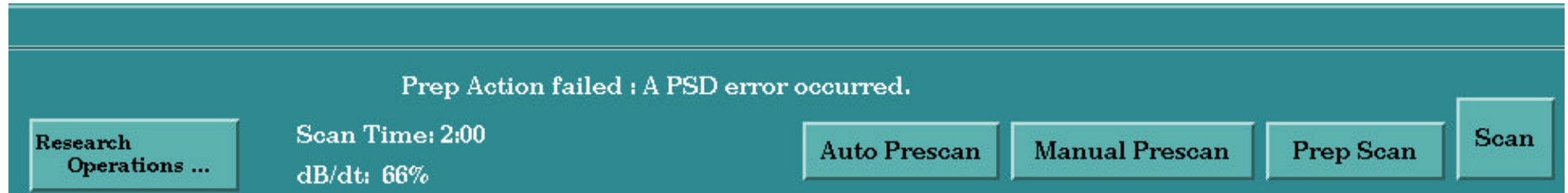
Screen Lock Up on Potassium

- Restart the Potassium x-server by pressing:
  - cntrl + alt + backspace keys @ the same time

- Login: sdc-adw
- Password: xxxxxx

- Login: sdc-nfs
- Password: xxxxxx

Trouble Shooting the GE RT Sequence

Exam 7163, Series 7 – scan done: Action Failed !

Scan Time: 2:08
dB/dt: 66%

Research Operations ...

Reference Scan | Auto Prescan | Manual Prescan | Prep Scan | Scan

- Normal message reminding scan operator to check prescan values

- Could be a software glitch

Trouble Shooting the NIH EPI Sequence

Prep Action failed : A PSD error occurred.

Research Operations ...   Scan Time: 2:00   dB/dt: 66%   Auto Prescan   Manual Prescan   Prep Scan   Scan

- Researcher forgot to change CV from :

    prep = 1
        To
    prep = 0

- Could be a real software error, check the message board

Summary 1

- Do NOT shutdown Signa, the ADW or Potassium at the end of the day.

- It is important to logout of Potassium when finished scanning.

Summary 2

From Signa
- GINX Image Data
  - Tar and store for 2 weeks on Potassium

- RealTime Data
  - Tar and store for 2 weeks on Potassium

- P Files are stored on Potassium for 1 week only!

*** It is each researcher's responsibility to transfer their own data ***

Acknowledgements

3 Tesla Core Facility

NHLBI

NMR F

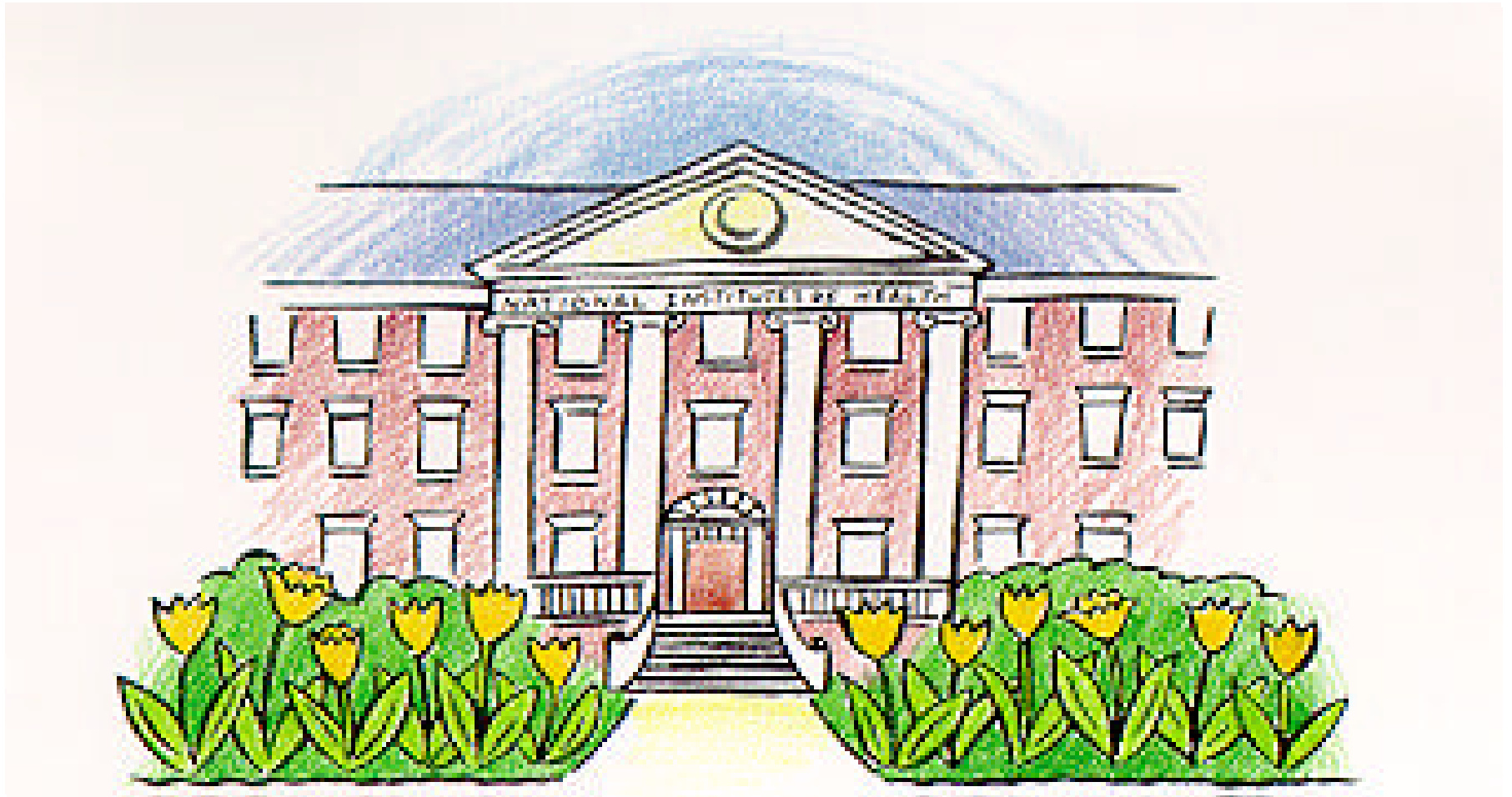*Duke List Serve for MR Technologists*

GE Medical Systems

Avotec, Inc.

Medrad, Inc.

Berlex Laboratories

ACR Glossary of MR Terminology

Thank You for Your Attention

National Institutes of Health